



1 ENERGY AND ENVIRONMENT CABINET

2 Department for Natural Resources

3 Division of Oil and Gas

4 (Amended After Comments)

5 805 KAR 1:130.~~[Deep well][Administrative regulation relating to]~~ Casing, cementing,
6 plugging, gas detection, and blow-out prevention in oil and gas wells.

7 RELATES TO: KRS 353.180, 353.510, 353.520, 353.561 – 353.564, 353.590, 353.5901,
8 353.592, 353.651, 353.652, 353.6601 – 353.6606, 353.730, 353.737, 353.991

9 STATUTORY AUTHORITY: KRS~~[Chapter 13A,]~~ 353.540, 353.550, 353.560

10 NECESSITY, FUNCTION, AND CONFORMITY: KRS 353.550 requires the Department for
11 Natural Resources to regulate the drilling and casing of oil or gas~~[all]~~ wells. This administrative
12 regulation establishes the requirements for the drilling and casing of wells for the purpose of oil
13 or gas extraction~~[a][deep][well]~~.

14 Section 1. Definitions.~~[The definitions in KRS 353.510 and the following additional defini-~~
15 ~~tions shall apply to this administrative regulation:]~~ (1) ~~["Abnormal pressure" means a reser-~~
16 ~~voir pressure that exceeds the hydrostatic pressure of fresh water extending from the res-~~
17 ~~ervoir to the surface.~~

18 ~~(2)]~~ "Annulus" means the space between two (2) strings of casing or between a string of casing
19 and the bore hole wall.

20 ~~(2)[(3)]~~ "Blow-out preventer~~[(BOP)]~~" or "BOP" means a device installed on the surface
21 casing, which is the first and largest diameter casing installed in a well with the primary

use to make the bore hole stand up and to protect a fresh water zone layer of strata capable of producing or receiving fluids, or installed on the intermediate casing, which is one (1) or more strings of pipes installed in a well in addition to the surface casing in which each string is smaller in diameter than the previous. The device is used to~~[surface or intermediate casing]~~ to prevent the escape of pressure either in the annulus between casing and drill pipe or in the open hole without drill pipe and ~~that~~[which] is used during drilling operations.

~~(3)~~(4) "Casing~~(casing string)~~" or "casing string" means steel tubes or pipes installed in a well.

~~(4)~~(5) "Cement" means hydraulic cement ~~[properly]~~ mixed with water or with additives ~~[approved by the director,]~~ and ~~that~~[which] is used to fill the annulus of casing string~~(string(s))~~ or to plug the well.

~~(5)~~(6) "Deep well" is defined by KRS 353.510(16)~~[means any well drilled and completed below the depth of 4,000 feet or, in the case of a well located east of longitude line eighty-four (84) degrees thirty (30) minutes, a well drilled and completed at a depth below 4,000 feet or below the base of the lowest member of the Devonian Brown Shale, whichever is deeper].~~

~~(6)~~(7) ~~["DES" means the state Disaster and Emergency Services Office under authority of the Department of Military Affairs in Frankfort, Kentucky with regional offices throughout the Commonwealth.~~

~~(8)~~ ~~["Intermediate casing" means one (1) or more strings of pipes installed in a well in addition to the surface casing in which each string is smaller in diameter than the previous.~~

~~(8)~~ "KYEM" means the state Kentucky Emergency Management office under authority of the Department of Military Affairs in Frankfort, Kentucky, with regional offices throughout the Commonwealth.

~~(7)~~(9) "Long casing string" means the last casing installed in a well to be used for produc-

tion or injection purposes.

~~(8)~~~~(10)~~ "Shallow well" is defined by KRS 353.510(15).

~~[(11) "Surface casing" means the first and largest diameter casing installed in a well and its primary uses are to make the bore hole stand up and to protect the fresh water zones.~~

~~(12)~~~~[(11)]~~ "Zone" means a layer of strata capable of producing or receiving fluids.]

Section 2. If an Application for Permit, ED-1, incorporated by reference in 805 KAR 1:140, [When an application] for a shallow well proposed to be drilled to a depth of less than 4,000 feet or above the base of the lowest member of the Devonian Brown Shale is submitted to the department, the application shall comply with all requirements of 805 KAR 1:020 and shall be exempt from Sections 3 and 4 of this administrative regulation.

Section 3. (1) If an Application for Permit, ED-1, incorporated by reference in 805 KAR 1:140, [When an application] for a [deep] well permit proposed to be drilled below a depth of 4,000 feet or the base of the lowest member of the Devonian Brown Shale, whichever is deeper, is submitted to the department, the operator shall prepare and submit with the permit application a detailed drilling and casing plan on Casing and Cementing Plan, Form ED-7, incorporated by reference in 805 KAR 1:140, [Section 7(1)(b)], for the review by and approval or denial of the department pursuant to this administrative regulation.

~~(2) [This casing and cementing form dated August 1, 1991 is filed and incorporated herein by reference. Copies of this form may be obtained from the Department for Natural Resources, P.O. Box 14090, Lexington, Kentucky 40512-4090, Monday through Friday, 8 a.m. to 4:30 p.m.] This plan shall include [the following]:~~

~~(a)~~~~[(1)]~~ A drafted schematic showing the hole size and depth of each casing string.

1. The freshwater string shall be set at least thirty (30) feet below the depth in the approved

1 permit.

2 2.[recommended by the department;] If fresh water is encountered during drilling opera-
3 tions deeper than the depth in the approved permit[~~such recommended depth~~], the freshwa-
4 ter casing shall be set at least thirty (30) feet below the actual freshwater depth.

5 3. A freshwater casing string shall be set and cement circulated to the surface[~~All fresh-~~
6 water casing strings shall be circulated when they are set] before drilling commences; and

7 (b)[-(2)] A description of the type, size, and grade of casing to be used and the manner in
8 which the annulus of the casing string and well bore shall[will] be cemented to protect all fresh
9 water, coal, mineral, and oil and gas producing formation in the area proposed for drilling. The
10 volume, class, additives, and weight of the cement to be used shall also be described.

11 (3) If an open hole [a-production] packer assembly is included on the long casing string, the
12 number of packers shall be included on the plan.

13 (4) If drilling fluid is used, it shall comply with 805 KAR 1:020, Section 2(1)(c).

14 Section 4. (1)[3-] The operator shall install a blow-out prevention device capable of:

15 (a) Closing the top of the well;

16 (b) Controlling the release of fluids;

17 (c) Permitting pumping into the well; and

18 (d) Allowing movement of the inner string of drill pipe.

19 (2)(a) The device shall be installed on a shallow well[~~shallow wells~~] drilled below 4,000 feet
20 or the base of the lowest member of the Devonian Brown Shale, whichever is deeper, capable of
21 withstanding a working pressure of 1,500 psi and a test pressure of 3,000 psi.

22 (b) The device shall be installed on a deep well[~~deep wells~~] and have a minimum working
23 pressure of 3,500 psi and a test pressure of 5,000 psi.

1 1. A description of this device and its installation shall be included with the drilling and cas-
2 ing plan required in Section 3 of this administrative regulation.

3 2. A test shall be performed when the device is initially installed, thirty (30) days after the
4 initial instillation, and when the operator opens or removes the BOP [at regular intervals]
5 or at the request of the cabinet to ensure the BOP shall[will] operate at its rated capacity, and the
6 results of the test shall be kept at the well site and made available to cabinet personnel upon re-
7 quest[withstanding a working pressure of 1500 psi and a test pressure of 3000 psi. A description
8 of this device and its installation shall be included with the drilling and casing plan required in
9 Section 2 of this administrative regulation. The BOP equipment shall be in place at such time as
10 the well is drilled past the depth at which it becomes a deep well. A test shall be performed at
11 regular intervals to ensure the BOP will operate at its rated capacity, and the results of such
12 test(s) shall be kept at the drill site and made available to department personnel upon request].

13 Section 5.[4.] The director shall[may] only waive the requirements for a BOP established in
14 Section 4[3] of this administrative regulation for a shallow well[shallow wells] if the operator
15 submits a written request for the[such] a waiver that includes:

16 (1) The geologic formations to be drilled through;[and]

17 (2) A history of drilling in the vicinity of the proposed well with pressure measurements that
18 show gas pressures were not encountered at [such] levels to require the BOP equipment; and

19 (3) The maximum anticipated gas pressure in the proposed well.

20 Section 6.[5:] (1) The operator shall obtain written instructions from the department prior to plug-
21 ging the well and the department shall approve or deny the commencement of plugging operations.

22 (2) Upon the department's request, the operator shall submit:

23 (a) A well log;

1 **(b)[and]** Completion report; **and**

2 **(c)[and any]** Geophysical logs used for preparing plugging instructions.

3 Section 7.[6:] **(1)** The department shall be notified verbally within forty-eight (48) hours of
4 any mechanical failure or other **deficiency that[difficulty which]** may jeopardize the plugging
5 operation or mechanical integrity of the well encountered while conducting any operation or
6 production of a deep well.

7 **(2)(a)[; provided, however,]** **KYEM[DES]** or the department shall be immediately notified
8 **if[whenever]** there are any well failures or blow-outs **that[which]** pose the likelihood of immi-
9 nent environmental damage or danger to the public.

10 **(b)** The operator shall correct **deficiencies, such as those established in this section,[any**
11 **and all such difficulties]** with due diligence.

12 Section 8.[7:] An operator in noncompliance with the requirements of this administrative reg-
13 ulation **shall be[is]** subject to penalties pursuant to KRS 353.991.

805 KAR 1:130 approved for filing.
Pages (1-6)

6/15/15

Date

YK Peters

Leonard K. Peters, Secretary
Energy and Environment Cabinet

REGULATORY IMPACT ANALYSIS AND TIERING STATEMENT

Administrative Regulation No.: 805 KAR 1:130

Contact Person: Michael Mullins, Regulation Coordinator

(1) Provide a brief summary of:

(a) What this administrative regulation does: This administrative regulation establishes the requirements for the drilling and casing of a well.

(b) The necessity of this administrative regulation: This administrative regulation is necessary to establish the criteria for drilling and casing a well in the Commonwealth.

(c) How this administrative regulation conforms to the content of the authorizing statutes: KRS 353.550 requires the Department for Natural Resources to regulate the drilling and casing of all wells. This administrative regulation establishes the criteria necessary for an owner or operator to meet.

(d) How this administrative regulation currently assists or will assist in the effective administration of the statutes: KRS 353.550 requires the Department for Natural Resources to regulate the drilling and casing of all wells. The administrative regulation provides details to owners and operators related to drilling and casing a well. This includes information on blow out preventers, requirements to submit the proper forms for casing and cementing, and pressures wells are to withstand depending on the depth.

(2) If this is an amendment to an existing administrative regulation, provide a brief summary of:

(a) How the amendment will change this existing administrative regulation: The amendments related to comments will address several KRS 13A technical issues. The amendments also changed when blow-out preventers are tested and included a clarification regarding production packer assemblies.

(b) The necessity of the amendment to this administrative regulation: This amendment is necessary provide clarity to the administrative regulation in two areas.

(c) How the amendment conforms to the content of the authorizing statutes: KRS 353.550 requires the Department for Natural Resources to regulate the drilling and casing of all wells. The amendments provide additional clarity to the administrative regulations regarding blow-out preventers and production packer assemblies.

(d) How the amendment will assist in the effective administration of the statutes: KRS 353.550 requires the Department for Natural Resources to regulate the drilling and casing of all wells. The amendments assist in the administration of the statutes by clarifying the lan-

guage in the administrative regulation which was promulgated under the authority of the statute.

(3) List the type and number of individuals, businesses, organizations, or state and local governments affected by this administrative regulation: This administrative regulation will impact approximately 1,000 oil and gas operators within the Commonwealth.

(4) Provide an analysis of how the entities identified in question (3) will be impacted by either the implementation of this administrative regulation, if new, or by the change, if it is an amendment, including:

(a) List the actions that each of the regulated entities identified in question (3) will have to take to comply with this administrative regulation or amendment: The entities listed above will not be required to meet any additional standards. The amendments to this administrative regulation were simply for clarification.

(b) In complying with this administrative regulation or amendment, how much will it cost each of the entities identified in question (3): There are no additional costs to the applicant under these amendments.

(c) As a result of compliance, what benefits will accrue to the entities identified in question (3): Operators will benefit by the clarity provided by the amendments to the administrative regulation.

(5) Provide an estimate of how much it will cost the administrative body to implement this administrative regulation:

(a) Initially: These amendments will not increase the costs of the agency to implement.

(b) On a continuing basis: These amendments will not increase the costs of the agency on a continuing basis.

(6) What is the source of the funding to be used for the implementation and enforcement of this administrative regulation: A combination of general funds and restricted funds will be used.

(7) Provide an assessment of whether an increase in fees or funding will be necessary to implement this administrative regulation, if new, or by the change if it is an amendment: There will not be a need to increase fees or funding related to the proposed amendments.

(8) State whether or not this administrative regulation established any fees or directly or indirectly increased any fees: The amendments to this administrative regulation do not increase or establish any fees.

(9) TIERING: Is tiering applied? (Explain why or why not) No. All entities that drill a shallow or deep well will be treated in the same manner.

FISCAL NOTE ON STATE OR LOCAL GOVERNMENT

Admin. Regulation No. 805 KAR 1:130

Contact Person: Michael Mullins, Regulation Coordinator

1. What units, parts or divisions of state or local government (including cities, counties, fire departments, or school districts) will be impacted by this administrative regulation? The Division of Oil and Gas.

2. Identify each state or federal statute or federal regulation that requires or authorizes the action taken by the administrative regulation. KRS 353.550.

3. Estimate the effect of this administrative regulation on the expenditures and revenues of a state or local government agency (including cities, counties, fire departments, or school districts) for the first full year the administrative regulation is to be in effect.

(a) How much revenue will this administrative regulation generate for the state or local government (including cities, counties, fire departments, or school districts) for the first year? This new administrative regulation will not generate any new revenue for the state or local government.

(b) How much revenue will this administrative regulation generate for the state or local government (including cities, counties, fire departments, or school districts) for subsequent years? This new administrative regulation will not generate revenue in subsequent years.

(c) How much will it cost to administer this program for the first year? There will not be a cost increase associated with the amendments to this administrative regulation.

(d) How much will it cost to administer this program for subsequent years? Future costs would remain essentially unchanged related to this amendment.

Note: If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impact of the administrative regulation.

Revenues (+/-): NA

Expenditures (+/-): NA

Other Explanation: NA